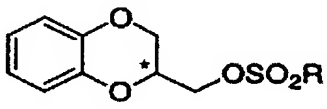
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

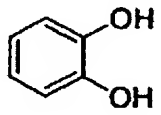
1. (original): A method for producing an optically active 1,4-benzodioxane derivative represented by general formula (1):



(1)

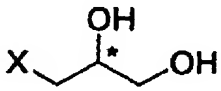
(where * represents an asymmetric center), the method comprising:

a first step of allowing catechol represented by formula (2):



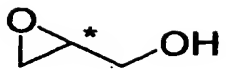
(2)

to react with an optically active 3-halogeno-1,2-propanediol represented by general formula (3):



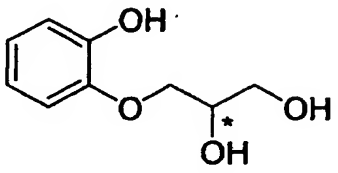
(3)

(where X represents halogen atom; and * is the same as above), or an optically active glycidol represented by formula (4):



(4)

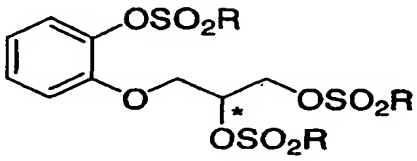
(where * is the same as above), in a solvent in the presence of a base, to yield an optically active triol compound represented by formula (5):



(5)

(where * is the same as above);

a second step of allowing the resulting compound to react with a sulfonylating agent in the presence of a tertiary amine to form an optically active trisulfonate compound represented by general formula (6):



(6)

(where R represents an alkyl group having 1 to 12 carbon atoms or a phenyl group unsubstituted or substituted with a group having 1 to 12 carbon atoms; and * is the same as above); and

a third step of treating the resulting optically active trisulfonate compound with a base in a protic solvent or a mixed solvent of a protic solvent and an aprotic solvent to cause cyclization.

2. (original): The method for producing an optically active 1,4-benzodioxane derivative according to Claim 1, wherein X represents a chlorine atom.

3. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to Claim 1 ~~and 2~~, wherein, in the first step, an alkali metal hydroxide is used as the base.

4. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~Claims 1 to 3~~Claim 1, wherein, in the first step, water is used as the solvent.

5. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~any one of Claims 1 to 4~~Claim 1, wherein, in the second step, the sulfonylating agent is arylsulfonyl chloride containing 6 to 12 carbon atoms or alkylsulfonyl chloride containing 1 to 12 carbon atoms.

6. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~Claims 1 to 4~~Claim 1, wherein, in the second step, the sulfonylating agent is p-toluenesulfonyl chloride.

7. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~any one of Claims 1 to 6~~Claim 1, wherein, in the second step, a mixed amine containing triethylamine and *N,N,N,N*-tetramethyl-1,6-hexanediamine is used as the tertiary amine.

8. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~any one of Claims 1 to 7~~Claim 1, wherein, in the third step, sodium alkoxide containing 1 to 4 carbon atoms is used as the base.

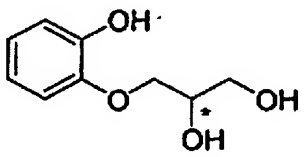
9. (original): The method for producing an optically active 1,4-benzodioxane derivative according to Claim 8, wherein the sodium alkoxide is sodium methoxide.

10. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~Claims 1 to 9~~Claim 1, wherein, in the third step, a mixed solvent of an alcohol containing 1 to 4 carbon atoms and tetrahydrofuran is used as the mixed solvent of a protic solvent and an aprotic solvent.

11. (original): The method for producing an optically active 1,4-benzodioxane derivative according to Claim 10, wherein the mixed solvent of a protic solvent and an aprotic solvent is a mixed solvent of methanol and tetrahydrofuran.

12. (currently amended): The method for producing an optically active 1,4-benzodioxane derivative according to ~~Claims 1 to 11~~Claim 1, wherein the optically active 3-halogeno-1,3-propanediol has (R) configuration.

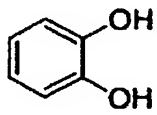
13. (original): A method for producing an optically active triol compound represented by formula (5):



(5)

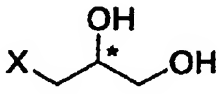
(where * represents an asymmetric center), the method 15 comprising a step of:

allowing catechol represented by formula (2):



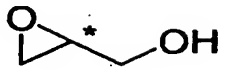
(2)

to react with an optically active 3-halogeno-1,2-propanediol represented by general formula (3):



(3)

(where X represents a halogen atom; and * is the same as 5 above), or an optically active glycidol represented by formula (4):



(4)

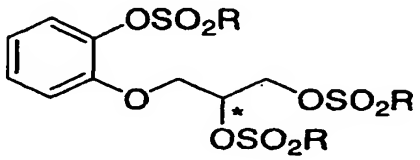
(where * is the same as above), in a solvent in the presence of a base.

14. (original): The method according to Claim 13, wherein sodium hydroxide is used as the base.

15. (currently amended): The method according to Claim 13 ~~and 14~~, wherein water is used as the solvent.

16. (currently amended): The method according to ~~Claims 13 to 15~~Claim 13, wherein X represents a chlorine atom.

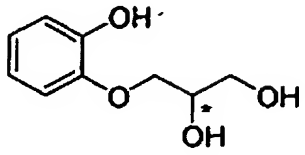
17. (original): A method for producing an optically active trisulfonate compound represented by general formula (6):



(6)

(where R represents an alkyl group having 1 to 12 carbon atoms or a phenyl group unsubstituted or substituted with a group having 1 to 12 carbon atoms; and * is the same as above), the method comprising a step of:

allowing an optically active triol compound represented by general formula (5):



(5)

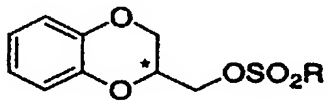
to react with a sulfonylating agent in the presence of a tertiary amine.

18. (original): The method according to Claim 17, wherein the sulfonylating agent is arylsulfonyl chloride containing 6 to 12 carbon atoms or alkylsulfonyl chloride containing 1 to 12 carbon atoms.

19. (original): The method according to Claim 18, wherein the sulfonylating agent is *p*-toluenesulfonyl chloride.

20. (currently amended): The method according to ~~any one of Claims 17 to 19~~Claim 17, wherein a mixed amine of triethylamine and *N,N,N,N*-tetramethyl-1,6-hexanediamine is used as the tertiary amine.

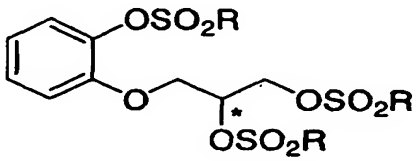
21. (original): A method for producing an optically active 1,4-benzodioxane derivative represented by formula (1):



(1)

(where * represents an asymmetric center), the method comprising a step of:

treating an optically active trisulfonate compound represented by general formula (6):



(6)

(where * is the same as above), with a base in a protic solvent or a mixed solvent of a protic solvent and an aprotic solvent to cause cyclization.

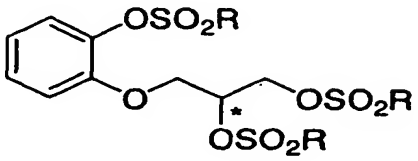
22. (original): The method according to Claim 21, wherein sodium alkoxide containing 1 to 4 carbon atoms is used as the base.

23. (original): The method according to Claim 21, wherein the base is sodium methoxide.

24. (currently amended): The method according to ~~Claims 21 to 23~~Claim 21, wherein a mixed solvent of an alcohol containing 1 to 4 carbon atoms and tetrahydrofuran is used as the mixed solvent of a protic solvent and an aprotic solvent.

25. (currently amended): The method according to ~~Claims 21 to 23~~Claim 21, wherein a mixed solvent of methanol and tetrahydrofuran is used as the mixed solvent of a protic solvent and an aprotic solvent.

26. (original): An optically active trisulfonate derivative represented by general formula (6):



(6)

(where R represents an alkyl group having 1 to 12 carbon atoms or a phenyl group unsubstituted or substituted with a group having 1 to 12 carbon atoms).

27. (original): The derivative according to Claim 26, wherein R represents *p*-tolyl.